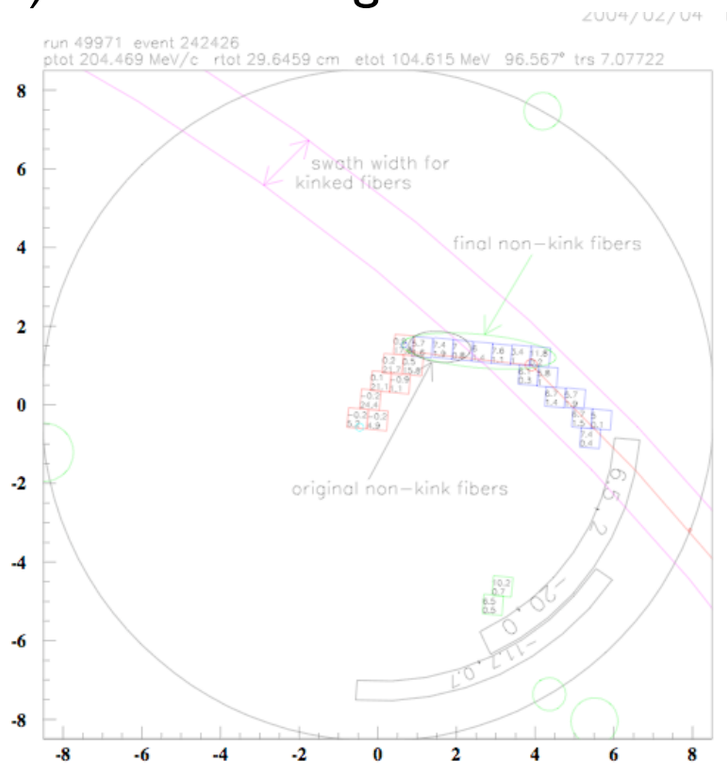
Kink Finder

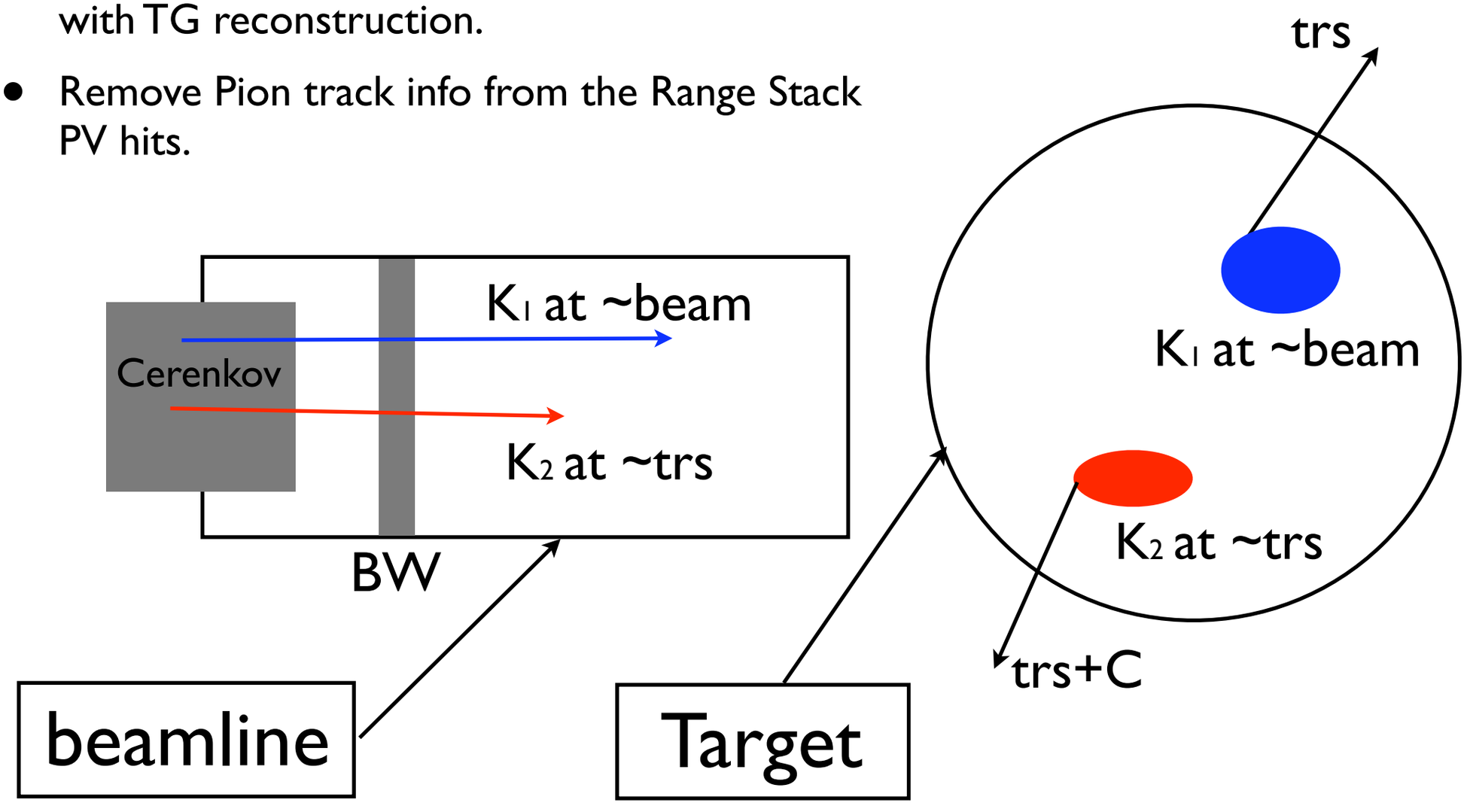
- Purpose: Look for XY(Z) Target Scatters (kink in track) to create larger z-scatter sample for PNN2 Photon Veto.
- Target Reconstructed by TGRECON.
  - TGRECON only reconstructs SwathCCD failures.
    - 'Forced' Failures:
      - tpi-tk < 3.0,
      - K/p gap > 0.75cm,
      - Out of time Kaon fibers (conjoined K-blobs) > 6ns,
      - B4in <1.0cm to closest K-fiber



- Requirements:
  - Must have two fibers outside of the UTC swath.
  - Off-track fibers fit to modified Toshio fitter (best fit track to fiber list).

Short-term Plans

- Create cut tables for `PNN1` & `PNN2` data sets
- Deeper look into 1 & 2-Beam Backgrounds.
- Investigate possible Gains in Beam Backgrounds.
- First 2-Beam Improvement Idea
  - Identify the 2nd beam particle thru the beam system. Keep event if all beam info is consistent with TG reconstruction.
  - Remove Pion track info from the Range Stack PV hits.



Time Table

- PNN1 & PNN2 comparison table (cut-by-cut) for
  - 1-Beam Rejection & Normalization Thursday (Sept 15)
  - 2-Beam Rejection & Normalization Thursday (Sept 15)
- Dependent on ntuple-skimming.
- Finding which functions need modification for PNN2
  - such as lay_v4 function (layers 11-18 for PNN1)
    - Now Fixed for PNN2
  - sort_rd_hits.function
    - Error occurred when array bounds were exceeded. Now Fixed.